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# Prosocial Behaviors: A Matter of Altruism or Public Service Motivation?

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## Abstract

In recent years, public service motivation (PSM) research has grown substantially, but is still largely limited to the field of public administration. To be able to export the theory and measures of PSM to other disciplines, we need more conceptual clarity. Some suggest PSM is analogous to altruism, whereas others warn not to confound the two concepts. Is PSM separate from altruism? How does each motivational construct relate to prosocial behaviors? We use a nationally representative panel of respondents to the Cooperative Congressional Election Study (CCES) to measure both altruism and PSM among respondents before the 2016 election and measure respondents' participation in prosocial behaviors after the 2016 election. Using linear probability models with state fixed effects, we find that although PSM and altruism predict prosocial behaviors separately, altruism has no effect after controlling for PSM. PSM is a more consistent predictor of some prosocial behaviors than altruism, particularly in more formal contexts such as volunteering with an organization.

Research on public service motivation (PSM) has grown substantially since [Perry and Wise \(1990\)](#) first defined the concept as “an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations” (368). Despite the recent growth in research attention, core theoretical questions about the link between PSM and behavior remain. We respond to calls to examine issues of causality and to explore the boundaries of PSM (e.g., [Perry and Vandenabeele 2015](#); [Ritz, Brewer, and Neumann 2016](#); [Vandenabeele, Brewer, and Ritz 2014](#)). Specifically, we examine the relationship between PSM and several prosocial behaviors to distinguish the effects of PSM from measures of altruism.

Research on PSM has comingled the terms altruism, PSM, and prosocial behaviors. We aim to disentangle the two concepts—PSM and altruism—and see how each concept relates to specific types of prosocial behaviors. We follow [Batson’s \(2011\)](#) definition

of altruism, where, juxtaposed to egoism, it is defined as “a motivational state with the ultimate goal of increasing another’s welfare” (20). Although altruism is a general motivation to help others, PSM is a motivation toward the betterment of society grounded in public institutions and organizations, a multimotive concept encompassing both self-regarding and other-regarding motives.

However, the debate on the relationship between PSM and altruism continues. Some equate PSM with altruism ([Rainey and Steinbauer 1999](#)), whereas others dispute this ([Perry and Vandenabeele 2015](#)) and emphasize the need to distinguish PSM from related, more generalized concepts such as altruism ([Bozeman and Su 2015](#)). We differentiate the two concepts by examining their separate and joint influence on three prosocial behaviors—formal volunteering, informal volunteering, and blood donation. While altruism focuses on the whether an individual’s desire to help

others is out of concern for others, PSM focuses on the call to public service. In this sense, altruism is unidimensional, egoism versus altruism, whereas PSM is multidimensional taking normative, affective, and rational motives into account. In search of some conceptual clarity, we ask: Are altruism and PSM-related or distinct concepts? What is the relative contribution of PSM and altruism to prosocial behaviors?

Using a nationally representative panel of registered voters and commonly used scales designed to measure altruism and PSM, we find that PSM and altruism are highly, but not perfectly, correlated. Moreover, we find PSM corresponds to each of the three prosocial behaviors—formal volunteering, informal volunteering, and blood donation—while altruism has no effect after controlling for PSM.

We begin with a discussion about exporting PSM theory from public administration to other disciplines and disentangling the concepts of PSM and altruism. Next, we present our prosocial behavior hypotheses to examine the influence of these two motivations on formal volunteering, informal volunteering, and blood donation. This is followed by a discussion of our methods, using a nationally representative sample where we measure motivational bases on a pre-election survey and prosocial behaviors on a post-election survey. We then present and discuss the results of our analysis, disentangling the concepts by examining their joint and independent influences on prosocial behaviors. We conclude with a discussion of key findings, where PSM is found to be a more holistic measure and consistent predictor of prosocial behaviors, and their implications.

### Extending PSM Beyond Public Management

Public administration is an interdisciplinary field (Kettl and Milward 1996; Rosenbloom 1983; Wright 2011). We borrow and build on theories from other disciplines to apply them to public service. Although scholars import theories from a variety of disciplines, we rarely export public management theories to other disciplines. However, PSM research has exploded since Perry and Wise (1990) coined the term and is beginning to gain traction in other disciplines, such as economics and organizational behavior (Perry and Vandenabeele 2015). Yet progress is still being made on the antecedents and outcomes of PSM (e.g., Perry and Hondgehem 2008; Wright and Grant 2010) and more work is needed to establish the conceptual boundaries of PSM (e.g., Perry and Vandenabeele 2015; Ritz, Brewer, and Neumann 2016; Vandenabeele, Brewer, and Ritz 2014).

The use of PSM and altruism interchangeably in empirical work makes the conceptual distinction between these theoretically unique bases of motivation

unclear (Bozeman and Su 2015). As Gerring (1999, 367) notes, differentiation and utility, both theoretical and field, are key criteria for “conceptual goodness.” If PSM does uniquely explain certain aspects of other-regarding human behavior, beyond altruism or prosocial motivation, PSM research needs to begin empirically establishing how, and in what contexts, PSM differs in explaining behaviors. Differentiating PSM from extant theories of motivational bases of behavior is a particularly important step in aiding researchers in other disciplines apply the concept to the study of behavior in their disciplinary domains.

While the interdisciplinary foundations of PSM have been discussed (Koehler and Rainey 2008), only recently have scholars examined how PSM relates to constructs from other disciplines to begin to establish the boundaries of PSM. Nowell and colleagues (2016) introduce sense of community responsibility (SOC-R) from community psychology to the PSM literature. In comparing the influence of the two motivational constructs on collaborative leadership, they find PSM indirectly influences collaborative leadership through SOC-R. Van Witteloostuijn, Esteve, and Boyne (2016) find the personality traits of Honesty-Humility, Emotionality, and Agreeableness to be positively correlated with the affective dimensions of PSM (compassion and self-sacrifice), whereas Conscientiousness had a negative effect, and Openness to Experience is positively associated with nonaffective PSM dimensions (attraction to policymaking and commitment to the public interest). We build on this growing research to differentiate PSM from like concepts from other disciplines.

### Disentangling PSM and Altruism

Many scholars note the link between PSM and altruism and some even equate the two (Rainey and Steinbauer 1999), whereas others argue the concepts are distinct (Perry and Vandenabeele 2015). Perry and Wise (1990) differentiate “motives [that] are usually treated as wholly altruistic” (368) from PSM in their conceptualization of the term. The inclusion of multiple motives (affective, normative, and rational) could be the key asset of PSM over altruism as a concept to explain prosocial behaviors. PSM also allows for self-sacrifice (one of Perry’s (1996) original dimensions), but does not make it a precondition for PSM. Although self-sacrifice is an important aspect of PSM, an individual could be predisposed to public service out concern for oneself, such as attraction to policymaking, in addition to concern for others.

Altruism is an interdisciplinary concept, although each discipline seems to differ in its conception and use of the term. However, much of the altruism literature

across disciplines debates the role of self-interest and rationality (e.g., [Batson 2011, 2014](#); [Rushton and Sorrentino 1981](#)). For example, [David Horton Smith \(1981\)](#) argues that pure altruism does not exist and all altruistic acts are motivated by self-interested egoism. Similarly, economists tend to use the concept of altruism to explain why people give and consider altruism on a spectrum of “purity” as some give for the “warm glow” feeling ([Andreoni 1990](#); [Le Grand 2003](#)). Economists focus on maximizing individual self-interest, but [Simon \(1993\)](#) warns “current doctrines will have to undergo severe revision as motives other than economic gain (and especially altruistic ones) assume their place in theory” (159). [Knox \(1999\)](#) heeds this warning and puts forth elements of socioeconomic rationality, allowing for rational altruism to justify why a rational individual would ever donate time over money.

Similarly, social-psychologists examine altruism in comparison to egoism. Here the term and concept of altruism dates back to Comte (1851/1875) who distinguished between two motives for helping others: egoism, or self-benefit, and altruism, a desire to “live for others” (556). Comte was the first philosopher to suggest individuals could be other-oriented and want to serve others for reasons other than their own self-interest. Because altruism is defined as “a motivational state with the ultimate goal of increasing another’s welfare” ([Batson 2014, 6](#)), one way to overcome the egoistic-altruistic (or impure-pure altruism in economic terms) debate is to view altruism on a continuum rather than separate identities.

Scholars have called for research to examine altruism on a continuum from altruistic to egoistic motives rather than a dichotomy (e.g., [Haski-Leventhal 2009](#); [Krebs and Van-Hesteren 1994](#); [Monroe 1998](#)). People are not wholly motivated by ego nor wholly motivated by altruism. As [Monroe \(1998\)](#) writes, “the potential for altruism exists in all people” (13). Correspondingly, prosocial behaviors, such as volunteering, tend to be a result of a combination of both altruistic and egoistic motives ([Cnaan and Goldberg-Glen 1991](#)). As such, we follow [Ashton and Lee’s \(2007\)](#) definition of “altruism in terms of a dimension of altruistic versus antagonistic tendency, which involves both a willingness to help or provide benefits to others and an unwillingness to harm or impose costs on others” (156). This altruism scale cuts across personality types.

Psychologists have studied personality traits for decades. The Big Five personality traits model of Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (e.g., [McCrae and Costa 1985](#); [Goldberg 1993](#)) was the first to capture an individual’s core personality. The field evolved and now favors a six-dimensional personality trait model, named HEXACO after each

of the dimensions: Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to Experience ([Ashton and Lee 2001, 2007](#); [Lee and Ashton 2004](#)). The theoretical framework for the HEXACO involves two broad concepts, one of which is altruism that corresponds to Honesty-Humility, Emotionality, and Agreeableness ([Ashton and Lee 2007](#); [Ashton et al. 2014](#)). [Lee and Ashton \(2006\)](#) developed an interstitial facet scale for altruism versus antagonism to capture “the overall tendency to be altruistic or to be antagonistic [that] will represent a blend of those three dimensions” (185). Interestingly, in their study of HEXACO personality traits and PSM, [van Witteloostuijn, Esteve, and Boyne \(2016\)](#) find the same three personality traits—Honesty-Humility, Emotionality, and Agreeableness—linked to PSM.

Altruism plays a role in normative and affective motives. For example, citing [Downs \(1967\)](#), [Perry and Wise \(1990\)](#) make the case that the normative desire to serve the public interest can be seen as altruistic. [Perry and Vandenberg \(2015\)](#) note the possible connection between the affective dimension of self-sacrifice and altruism. Many definitions of PSM illustrate the link between PSM and altruism. For example, [Rainey and Steinbauer \(1999\)](#) define PSM as “a general altruistic motivation to serve the interests of a community of people, a state, a nation, or humankind” (23). Similarly, [Pandey, Wright, and Moynihan \(2008\)](#) argue that “Rather than simply a theory of public employee motivation, PSM actually represents an individual’s predisposition to enact altruistic or prosocial behaviors regardless of setting” (91). [Perry and Hondeghem \(2008\)](#) also include altruism in their definition of PSM that refers “to individual motives that are largely, but not exclusively, altruistic and are grounded in public institutions” (6). This leads one to wonder, where is the line between altruism and PSM?

As discussed, PSM was initially conceptualized as incorporating rational (self-interest maximizing), normative (values), and affective (emotional) measures ([Perry and Wise 1990](#)). Scholars have called for research on the dimensions of PSM (e.g., [Wright and Grant 2010](#)), and many have examined the links between PSM dimensions and various outcomes. [Perry and Vandenberg \(2015\)](#) suggest the dimensions of PSM be exported to other disciplines such as self-sacrifice, which relates to the concepts of altruism ([Perry 1996](#)). However, PSM research has found self-sacrifice to be unrelated to volunteering ([Clerkin et al. 2009](#); [Christensen et al. 2015](#); [Piatak 2016a](#)). In addition, [Batson \(2014\)](#) identifies two issues with equating altruism and self-sacrifice: first, it shifts the focus from motivation to consequences, and second, it overlooks the possibility of self-benefit. Although self-sacrifice is a key component of both altruism and

PSM, one need not sacrifice oneself to serve the public nor help others.

Because parsimony and coherence are core aspects of what makes a concept good (Gerring 1999), we focus on the overall concept of PSM rather than a dimensional approach. Some have raised the potential limitations of the multidimensional approach, highlighting the merits of the commonly used global measures of PSM (e.g., Wright, Christensen, and Pandey 2013). This unidimensional or global scale has been included on many waves of Merit Principle Survey dating back to 1996, the National Administrative Studies Project, and numerous individual studies. Before turning research focus to certain dimensions of PSM among volunteers (Coursey et al. 2008; Perry et al. 2008) or trying to develop a nonprofit version of PSM (Word and Carpenter 2013), we seek measurement parsimony and coherence so that PSM can be clearly disentangled from similar concepts such as altruism in explaining behavior. We agree that, “in some instances advancing PSM research is better served by just having one overall concept (and overall) measure of PSM” and that a “global or overall concept may be more informative as it does not preselect which elements determine the actual behavioral inclinations associated with PSM” (Vandenabeele, Ritz, and Neumann 2018, 264). Holistically, PSM captures both altruistic and egotistic motives. Human motivation is complex and PSM captures the full range of reasoning behind an individual’s motivation for other-regarding behavior.

Although PSM has been equated to altruism (Rainey and Steinbauer 1999) and many acknowledge there are altruistic components (e.g., Pandey, Wright, and Moynihan 2008; Perry 1996; Perry and Hondeghem 2008; Perry and Wise 1990), we agree with Perry and Vandenabeele’s (2015) caution not to equate the two and that PSM should be clearly distinguished (Vandenabeele, Ritz, and Neumann 2018). We contend altruism and PSM may overlap, but there are clearly distinct aspects. Empirically examining the overlap of common measures of both PSM and altruism represents a productive first step in establishing the boundaries of these two concepts. Because both are value-based motives, we hypothesize:

*H<sub>1</sub>: Normative components of PSM and altruism overlap, but they are distinct concepts with unique aspects.*

### Prosocial Behavior Hypotheses

We examine the influence of both concepts on prosocial behaviors, varying in the degree to which they take place through or for a formal institution or organization. We disentangle the two concepts by examining how PSM and altruism influence the prosocial behaviors of

formal volunteering, informal volunteering, and blood donations. Since the development of the HEXACO, the inventory that currently predominates the personality traits literature, and the altruism scale that cuts across personality traits (Ashton and Lee 2001, 2007; Lee and Ashton 2004, 2006) are relatively recent, little work has been done to examine how this altruism continuum relates to prosocial behaviors. However, German studies found that altruism corresponds to political orientation, where more altruistic individuals agree with the more left-winged political agenda and prefer left-winged parties (Zettler and Hilbig 2010; Zettler et al. 2011). Across American and Swedish samples, Bergh and Akrami (2016) found higher levels of altruism reduces prejudice. To date, research on the altruism scale has focused on politics and social justice, but out of concern for others, we suspect altruism will also drive individuals to act through prosocial behaviors. However, because PSM captures both self- and other-regarding motives, we expect a stronger relationship between PSM and each prosocial behaviors compared with altruism.

### PSM and Prosocial Behaviors

In light of the altruistic aspect of many PSM definitions, scholars have examined the influence of PSM on prosocial behaviors, like volunteering, often using sector as a proxy. Houston (2006) was the first to use job sector as a proxy for PSM. In his 2006 study, he finds both government and nonprofit employees are more likely to volunteer, but later finds no significant results for the nonprofit sector (Houston 2008). Rotolo and Wilson (2006) find nonprofit employees are most likely to volunteer, followed by government employees. Examining the intensity of volunteer efforts, Holt (2019a) finds government employees spend more time volunteering than those in the private sector, particularly at the local level. Ertas (2014) finds that government employees volunteer more than those in the private sector. Lee and Wilkins (2011) find volunteers are more likely to work in the nonprofit sector, and Chen and Lee (2015) observe nonprofit employees are more likely to volunteer than government employees, but there is no comparison to the for-profit sector. Piatak (2015) finds that nonprofit and only local government employees are more likely to volunteer than those in the for-profit sector. Across studies, those in public service, broadly defined, volunteer more than employees in the private, for-profit sector.

Research examining the link between PSM and volunteering has mostly used sector as a proxy until recently (Christensen et al. 2015; Clerkin et al. 2009; Clerkin and Fotheringham 2017; Piatak 2016a; Walton et al. 2017). Clerkin et al. (2009) find undergraduates

who scored higher on the civic duty dimension had a higher propensity to volunteer. Christensen et al. (2015) find undergraduates with higher levels of overall PSM volunteer more frequently, but find inconsistent results for the dimensions of PSM. Piatak (2016a) finds graduate students with higher levels of PSM are more likely to volunteer, using a composite measure of Perry's (1996) original 40-item survey and the five-item global scale (Wright, Christensen, and Pandey 2013), but no significant results for individual PSM dimensions. Corroborating these findings, Walton et al. (2017) find those with higher levels of PSM are more likely to volunteer using the five-item scale in a survey of those over age 50. Other work has focused on samples of volunteers to examine antecedents of PSM (Perry et al. 2008), how PSM influences where people volunteer (Coursey et al. 2011), and to test PSM survey instruments (Coursey et al. 2008). In addition, Ward (2014) found AmeriCorps volunteers had higher levels of PSM-related attitudes and behaviors, like commitment to service, illustrating that volunteering and PSM may be self-reinforcing (see also Holt 2019b). In light of the other-oriented nature of PSM, we expect:

*H<sub>2a</sub>: Individuals with higher levels of PSM are more likely to volunteer formally, even when controlling for altruism.*

Although definitions of informal volunteering vary (e.g., Cnaan, Handy, and Wadsworth 1996; Musick and Wilson 2008), scholars agree the key distinction is that informal volunteering takes place outside of an organizational setting. Informal volunteering may be people-oriented or task-oriented (Finkelstein and Brannick 2007). Among undergraduate students, Clerkin and Fotheringham (2017) find formal volunteering relates to the PSM dimensions of civic duty and self-sacrifice, whereas informal volunteering, measured as people-oriented helping, is weakly related to PSM's compassion dimension. In this sense, formal and informal volunteering appear to relate to different motives. We use a task-oriented measure of working with neighbors to improve the community (Piatak 2015, 2016b; Piatak, Dietz, and McKeever 2019; Shandra 2017) that may be more directly related to PSM, but still occurs outside the confines of an organization, where we expect:

*H<sub>2b</sub>: Individuals with higher levels of PSM are more likely to volunteer informally in the community, even when controlling for altruism.*

Although research has yet to examine the influence of PSM on blood donation, some work has used job sector as a proxy. Houston (2006, 2008) found only government employees are more likely to donate blood than for-profit employees with no significant differences

found between private for-profit and private nonprofit employees. Although we expect the influence of PSM on prosocial behaviors to weaken as behaviors become more distant from public institutions and organizations, we still expect:

*H<sub>2c</sub>: Individuals with higher levels of PSM are more likely to donate blood, even when controlling for altruism.*

## Method

### Data

To test these hypotheses, this study draws on data from the 2016 CCES, a national survey initiated by a consortium of 39 universities in 2006 to study elections. The survey was administered by YouGov over the internet, where common content was asked of 64,600 adults. YouGov's matched random sample methodology is used to select a representative sample. The American Community survey is used as the sample frame and the target sample was selected by stratification by age, race, gender, education, and voter registration, and by simple random sampling within strata. Response rates for the common content range from 42% to 48%. Additional details on the CCES, coordinated by scholars at Harvard University and the University of Massachusetts, as well as the data may be found on dataverse (Ansolabehere and Schaffner 2017). The accuracy of the CCES sample is shown by comparing votes reported in the survey to election outcomes, where state estimates for the president fall within the 95% confidence interval.

Half of the survey questions consist of common content and half of the questions are from team modules. In election years, like 2016, the survey consists of two waves, one before and one after the election, in October and November, respectively. This gives us the opportunity to address common source bias concerns (Favero and Bullock 2014; Meier and O'Toole 2012) and causality concerns with PSM research (e.g., Ritz, Brewer, and Neumann 2016; Vandenabeele, Brewer, and Ritz 2014) by placing the motivational measures on the pre-election survey and placing the volunteering behaviors on the post-election survey. Common source bias is a concern where biases may be inflated due to measures of the dependent and independent variables being measured on the same survey. We overcome such issues by asking respondents about their motivation on the pre-election survey in October and their prosocial behaviors on the post-election survey in November, in addition to the questions being part of a larger survey.

A subsample of 1,000 respondents was asked pre-election PSM and altruism items, as described previously, and about their prosocial behaviors post-election. The analytic sample contains 807 respondents with complete data on all related variables.

## Dependent Variables

We focus our study on examining the possible overlap and independence of altruism and PSM; thus, we use self-reported volunteering, both formal and informal, and blood donation as common prosocial behaviors to make inferences about the predictive power of the two concepts. Respondents were asked “During the past year have you...(check all that apply)” and given the option “Done any volunteer activities through or for an organization” to measure formal volunteering, “Worked with other people from your neighborhood to fix a problem or improve a condition in your community or elsewhere” to measure informal volunteering, and “Donated blood.” These measures of volunteering are based on the survey questions asked in the September Volunteer Supplement of the Current Population Survey, the U.S. Bureau of Labor Statistics source of official volunteering rates, and [Piatak’s \(2015\)](#) operationalization of informal volunteering. Formal and informal volunteering and blood donation are measured as indicator variables for whether the individual engaged in that prosocial behavior the past year.

## Independent Variables

To address common source bias concerns, the independent variables are measured on the first wave of the survey, so they precede observed forms of volunteering, the behavioral outcomes of motivation. Using a grid question format, respondents were asked to “Describe to what extent you agree with the following statements:” for each of the PSM and altruism measures and given a 5-point Likert-scale ranging from “Strongly Disagree” to “Strongly Agree.”

To measure PSM, we use the validated five-item global measure commonly used by scholars of PSM ([Perry 1996](#); [Wright, Christensen, and Pandey 2013](#); See [Supplementary Appendix](#)). To measure altruism, we use the four-item altruism scale from the 100-item revised HEXACO personality inventory (HEXACO-PI-R) developed by [Lee and Ashton \(2006\)](#) and available at [hexaco.org](#) (see [Supplementary Appendix](#)). The altruism scale “assesses a tendency to be sympathetic and soft-hearted toward others” ([Ashton et al. 2014](#), 142).

Using these two sets of items commonly used in research on their respective concepts, we implement two measurement models of the underlying factors to create two indices of each concept. First, we implement independent single-factor models to test the reliability of these measures within our sample and examine their independent predictive power in a structural model of volunteering. As many scholars have noted, and central to our current study, measures of the concepts of altruism and PSM both carry prosocial motivation

components and, consequently, may overlap as concepts. We implement a two-factor measurement model to test for the correlation between PSM and altruism after fitting a reliable model of the two factors.<sup>1</sup> Using the two-factor measurement model, we create two standardized indexes for analysis in our model of volunteering.

[Table 1](#) presents goodness-of-fit measures of the measurement models of PSM, altruism, a pooled model that treats all items as measures of a single latent factor, and the two-factor model.<sup>2</sup> Although the present study uses scales of altruism and PSM adopted from prior literature, a potential concern is that the theoretical model does not fit the observed sample well enough to provide a reliable measure of the underlying latent factors. For the combined measurement models, the chi square fails to reject the null hypothesis that the data fits the model. Of course, because large samples may also arbitrarily influence the chi square, we report root mean squared errors, comparative fit index, and the Tucker–Lewis index, which provide goodness-of-fit tests robust to large sample effects ([Schumacker and Lomax 2016](#)).

A few observations about the measurement models are warranted. First, although the instruments we adopted to measure altruism and PSM have been grounded in theory and established in prior empirical work, as previously discussed, we take some comfort that both measures pass reliability tests independently in our sample. Second, consistent with the results of a principal components analysis that identified two latent factors in the pool of items, a measurement model that treats both altruism and PSM as a single factor fails to meet acceptable thresholds on most measures of reliability and fit. The measurement model that treats PSM and altruism as separate and correlated latent factors (two-factor model), meanwhile, performs better on all measures of fit and is on the margins of acceptance. Finally, the altruism instrument includes two items that are reverse coded items (see [Supplementary Table A1](#)), introducing the possibility that the measurement error of these two items are highly correlated. Both the single-factor and two-factor measurement models show improved reliability and fit after accounting for

1 We estimate the factor model using maximum likelihood (ML) fitting. Although the survey items violate the assumption of multivariate normality implicit in ML factor modeling, as [Muthén and Muthén \(2002\)](#) demonstrate, two-factor models with 10 items are asymptotically robust to this violation, beginning at a sample of around 300 observations. Our analytic sample (807) is sufficiently large to provide reliable estimates of the latent factors.

2 We also conducted a principal component factor analysis of all items, making no assumptions about the corresponding latent factors. The analysis identified two latent, orthogonal factors that explain the variation in the pool of items from both measures (Eigenvalues of 3.18 and 1.48). Together, the two factors identified explain 52% of the variation in the pool of items.

**Table 1.** Measures of index reliability and measurement model fit

	PSM	Altruism	Single factor 1	Single factor 2	Two-factor 1	Two-factor 2
$\chi^2$	3.87	1.24	398.89	223.55	288.94	122.97
RMSEA	0.00	0.02	0.12	0.08	0.10	0.06
CFI	1.00	0.99	0.81	0.90	0.87	0.95
TLI	1.00	0.99	0.75	0.86	0.82	0.93
SRMR	0.01	0.01	0.07	0.05	0.06	0.03
CD	0.80	0.81	0.82	0.82	0.91	0.91
Degrees of freedom	5	4	27	26	26	25

Index scores demonstrate a good fit between the theoretical model and the observed data against the following thresholds: RMSEA  $\leq$  0.06; CFI  $\geq$  0.95; TLI  $\geq$  0.95; SRMR  $\leq$  0.08 (see [Hu and Bentler 1999](#)). Two-factor 1 (single factor 1) refers to a two-factor (single factor) measurement model that does not account for the reverse coded responses of two items in the altruism measure. Two-factor 2 (single factor 2) refers to a two-factor measurement model that accounts for the correlated measurement error attributable to a shared reverse coding in two items in the altruism measure. CD, coefficient of determination; CFI, comparative fit index; RMSEA, root mean squared errors; SRMR, standardized root mean square residual; TLI, Tucker–Lewis index.

measurement error correlation on these two reverse coded items; however, although the single-factor model remains at the margins of acceptability, the two-factor model is reliable by most conventional thresholds.

A variety of assumptions suggests altruism and PSM can more reliably be measured as independent, correlated (0.68) latent factors that capture substantially overlapping latent traits. We take the two-factor model that accounts for the correlated error in the reverse coded items (see [Figure 1](#)) in the altruism instrument as our preferred measurement model for the purposes of our primary analysis.<sup>3</sup>

Of course, a variety of factors may also influence the propensity to volunteer, including sociodemographic characteristics, family commitments, employment status, religiosity, and political ideology. To account for this, we control for a rich set of measures of respondents' personal characteristics. We measure demographics

using indicators for gender (including transgender identity) and race. We account for socioeconomic status using indicators for self-reported household income, education level, homeownership status, and an indicator for whether the respondent owns any stock. Because family obligations and work schedules may conflict with volunteering time, we include indicators for whether the respondents are married, have children under 18, and detailed employment status indicators (full time, part-time, retired, stay-at-home spouse, unemployed, disabled, or in college). Finally, to account for the possible relationship between ideology or religiosity and volunteerism (e.g., [Coursey et al. 2011](#); [Perry 1997](#); [Perry et al. 2008](#); [Zettler et al. 2011](#); [Zettler and Hilbig 2010](#)), we use self-reported party identification, political ideology (very liberal, liberal, moderate, conservative, very conservative, or no ideology), and Pew's measures of religious affiliation and church attendance.

[Table 2](#) summarizes the sample on select characteristics overall and separately by participation in both types of volunteering and blood donation. Although 42% of the sample reported participation in formal volunteering in the second wave of data collection, only 25% of respondents reported participation in informal volunteering and only 13% reported donating blood. Notably, many of the respondents in our sample report participating in all three forms of prosocial behaviors. About half of those who report volunteering informally also report participating in formal volunteering activities. Similarly, nearly one third of those who participated in formal volunteering activities also reported informal volunteering. The variation in the sample of persistent volunteers (those who participate in both forms of volunteering), single-mode volunteers, and nonvolunteers underscores the potential multimotive nature of volunteering argued by others (e.g., [Lee and Brudney 2012](#); [Musick and Wilson 2008](#); [Piatak 2015, 2016b](#)).

As shown in column 1, the analytic sample is slightly whiter, higher educated, and more female than

<sup>3</sup> We confirm that the results from our analysis are not sensitive to this assumption in our measurement model in two ways. First, [Supplementary Table A4](#) runs a fully structural model, accounting explicitly for the high correlation between the two factors and the measurement error of the two factors. The structural model is run using the two-factor measurement model without allowing for correlated measurement error and using the two-factor model that accounts for the correlated measurement error of the reverse coded items. The results are consistent with the LPM results presented in the main text and show that the findings are robust to a variety of measurement model and structural model assumptions. Furthermore, as the results in [Supplementary Table A4](#) demonstrate, the high correlation between the two factors, and the multicollinearity accompanying such correlation, are not too high to prevent the estimation of standard errors for hypothesis testing. Perhaps more importantly, the results do not differ substantively across the two different approaches to modeling the latent factors ([Supplementary Figure A2](#) depicts the two-factor measurement model that does not allow for correlated errors between items). Similarly, [Supplementary Table A5](#) replicates the same analysis presented in the main text using a measurement model with no correlated measurement error. Again, the results are strikingly similar—identical to three decimal points in most estimates. This gives us some confidence that our primary results are not sensitive to specification.

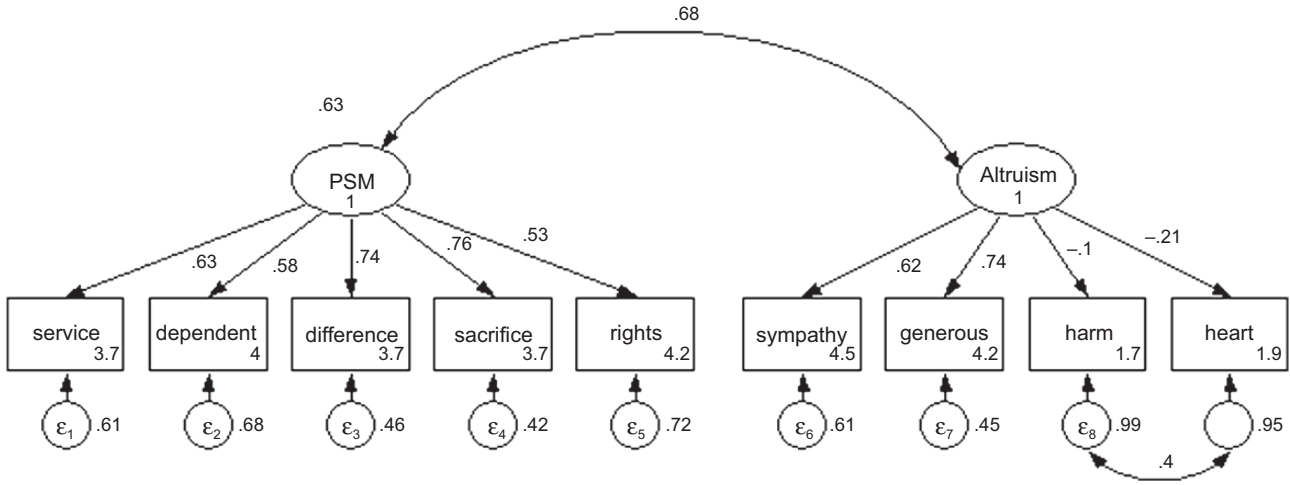


Figure 1. Two-factor measurement model of PSM and altruism, standardized with correlated measurement error.

Table 2. Summary statistics of sample on select characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Formal volunteer	Nonvolunteer formal	Informal volunteer	Nonvolunteer informal	Blood donor	Nondonor
Formal volunteer	0.42	1.00	0.00	0.51***	0.38	0.59***	0.39
Informal volunteer	0.25	0.30***	0.21	1.00	0.00	0.30	0.24
Blood donor	0.13	0.19***	0.09	0.16	0.12	1.00	0.00
PSM	-0.01 (0.56)	0.14*** (0.54)	-0.11 (0.54)	0.19*** (0.50)	-0.07 (0.56)	0.15*** (0.51)	-0.03 (0.56)
Altruism	-0.00 (0.47)	0.11*** (0.46)	-0.08 (0.46)	0.14*** (0.44)	-0.05 (0.47)	0.10*** (0.41)	-0.02 (0.48)
White	0.78	0.78	0.79	0.76	0.79	0.80	0.78
Black	0.08	0.10	0.08	0.10	0.08	0.07	0.09
Latinx	0.07	0.06	0.08	0.07	0.07	0.04*	0.07
Asian	0.02	0.02	0.02	0.02	0.02	0.03	0.02
Native	0.01	0.01	0.01	0.02	0.00	0.02	0.01
Other race	0.03	0.04	0.03	0.04	0.03	0.05	0.03
Female	0.59	0.57	0.60	0.54	0.60	0.52	0.60
FT employed	0.41	0.44*	0.38	0.40	0.41	0.50*	0.39
PT employed	0.11	0.12	0.10	0.13	0.10	0.16*	0.10
Retired	0.22	0.23	0.21	0.26	0.21	0.14**	0.23
Student	0.04	0.06**	0.03	0.04	0.04	0.06	0.04
Unemployed	0.08	0.05***	0.11	0.07	0.09	0.07	0.09
Income ≤ \$20k	0.10	0.07**	0.12	0.09	0.10	0.04***	0.11
Income ≥ \$100k	0.18	0.21*	0.15	0.22	0.16	0.20	0.17
HS or less	0.26	0.19***	0.30	0.16***	0.29	0.18**	0.27
College or more	0.40	0.49***	0.32	0.49***	0.37	0.50**	0.38
Democrat	0.37	0.38	0.35	0.39	0.36	0.34	0.37
Republican	0.25	0.27	0.23	0.25	0.25	0.27	0.25
Observations	807	336	471	199	608	106	701

Standard deviations in parentheses. The statistical significance of mean differences between volunteers and nonvolunteers is tested using *t*-tests. FT, full time; PT, part-time; PSM, public service motivation; HS, high school.

\**p* < .10, \*\**p* < .05, \*\*\**p* < .01.

the U.S. population as whole, but resemble the demographic characteristics of the national voting electorate in 2016 (Census 2017). Comparing columns 2 and 3, which separates the characteristics of formal

volunteers and those with no formal volunteering, respectively, reveals a few notable patterns. First, on average, those who reported participation in volunteering score higher in both previously reported



PSM and altruism than their nonvolunteering counterparts, and the gap in PSM scores is slightly larger. Second, volunteering participation appears evenly distributed across demographic groups; however, some indicators of socioeconomic status, such as unemployment or being a college student, differ across participation in volunteering.

Importantly, for both formal volunteering and blood donation, participants and nonparticipants seem to vary along their ties to formal institutions, such as college or employment. For instance, although college students are just as likely to engage in informal volunteering as not, they are more likely to engage in formal volunteering. Similarly, regarding both formal volunteering and donating blood, a higher proportion of full-time workers are participants than nonparticipants. Descriptively, the patterns are consistent with the possibility that ties to formal institutions shape and pattern participation in formal volunteering. Although blood donation may generally be more purely altruistic, some organizations provide opportunities to donate blood exclusively to workers or students (Lacetera et al. 2012), and blood drives themselves are organized in an institutional context that may affect participation (Healy 2000). Consequently, people in formal work contexts may experience more opportunities to participate in organized blood drives or formal volunteering than their unemployed peers. For the purposes of the present study, this underscores the possibility that both altruistic and institutional commitments may play a role in determining participation in these activities.

### Empirical Strategy

Although the comparisons of volunteers and nonvolunteers in Table 1 are suggestive of the relative importance of PSM and altruism in explaining prosocial behaviors, the observed differences noted on other dimensions highlight the possibility these differences confound the observed relationship between PSM, altruism, and prosocial behaviors. Moreover, we are interested in testing the possibility that PSM and altruism have an independent relationship with prosocial behaviors from one another. We test our previously described hypotheses about the relationship of PSM and altruism to formal and informal volunteering and blood donation (prosocial behaviors examined here) by modeling the prosocial behavior ( $Y$ ) of individual  $i$  in state  $s$  at time  $t$  as the linear function:

$$\Pr(Y_{ist} = 1 | X_{is}) = \beta_1 \text{PSM}_{i,t-1} + \beta_2 \text{altruism}_{i,t-1} + \gamma X_i + \theta_s + \varepsilon_{ist}, \quad (1)$$

where  $Y$  represents binary indicators for post-election volunteering, both formal and informal, and donating

blood;  $\text{PSM}$  and  $\text{altruism}$  represent pre-election measures of  $i$ 's PSM and altruism;  $X$  represents a vector of controls for race, gender, socioeconomic status, employment status, political ideology, and religiosity; and  $\theta$  represents state-level fixed effects (FE). States likely vary in their need for volunteers and opportunities for volunteering (e.g., organizational density, a cultural disposition toward volunteerism, etc.) in ways that are time invariant in the short run. We account for this potential state-level confounder with the inclusion of state-level FE, which ensures comparisons are identified using observationally similar respondents in the same state, thereby accounting for state-specific differences in the propensity for these prosocial behaviors.

In equation (1),  $\beta_n$  represent our primary parameters of interest, as they capture the independent relationship between PSM and altruism and future formal and informal volunteering and donating blood. As noted previously, PSM and altruism are related concepts that attempt to measure and explain the underlying motivation for prosocial behavior; however, scholars generally disagree on the extent to which the concepts differ. Our sample suggests that the measures are significantly and positively correlated, with a standardized coefficient of 0.68, and altruism alone explains about 46% of the variation in PSM scores. Thus, although the two measures are correlated, there is some variation between them even when measured using shorter survey instruments.

We estimate equation (1) using linear probability models (LPM) with heteroskedastic robust standard errors clustered at the state level.<sup>4</sup> We take LPM estimates as our preferred estimates to allow for the inclusion of state FE.

### Results

We begin by implementing the two-factor measurement model, as previously described, to examine the uniqueness of commonly used measure of PSM and altruism.

Figure 1 presents the fitted two-factor measurement models of altruism and PSM as previously described. The results from estimating the two-factor measurement model provides suggestive evidence of substantial overlap between PSM and the more general concept of altruism. The two latent factors have a standardized correlation of 0.68, which suggests the distinction between the two factors is quite low. As we expected, and stated in first hypothesis, altruism and PSM overlap as both measures capture normative motives, in line

4 [Supplementary Table A2](#) replicates the primary analysis using logistic regressions to account for the binary outcome under consideration. The tables contain the calculated average partial effects, directly comparable to LPM estimates, and show strikingly consistent results.

with the original conception of PSM (Perry and Wise 1990). The model in Figure 1, which accounts for the correlated measurement error of the only two reverse coded items, depicts our preferred measurement model used in our main analysis; however, as we show in Supplementary Tables A5 and A6, the results are not sensitive to this choice.

Although the two-factor measurement model suggests that the items capture reliable measures of altruism and PSM and the two concepts are related, there is still sufficient variation in the population along these two dimensions to suggest they carry a differential relationship with observed behaviors. The aim of measuring altruism and PSM is to explain, more comprehensively, the motivational bases of prosocial behaviors. Although altruism focuses on a continuum of concern for others compared with concern for self (egoism), PSM incorporates additional aspects that may motivate prosocial behavior. In particular, the global measure of PSM also includes items that measure rational and affective motives. We turn to formal and informal volunteering and blood donation, a set of prosocial behaviors, to compare the relative relationship between altruism and PSM in predicting future behavior.

Table 3 shows the LPM estimates of equation (1) on all three outcomes of interest, examining each measure of motivation separately and showing the change of the estimated relationship when controls enter the model. Panels A, B, and C estimate our model on formal volunteering, informal volunteering, and donating blood, respectively. Column 1 illustrates the  $R^2$  for a controls-only model, and columns 2 and 3 examine the effects of altruism and PSM separately, conditional on all controls previously described. The results reveal a variety of important relationships. First, both altruism and PSM significantly predict future formal volunteering independently of other characteristics, such as demographics, SES, or political ideology. Second, PSM appears to explain more of the variation in prosocial behavior patterns than altruism. Column 4 presents estimates of equation (1) using both PSM and altruism to predict volunteering. The results show that PSM remains a significant predictor of both formal and informal volunteering even conditional on altruism. Meanwhile, the estimated relationship between altruism and both types of volunteering shrinks considerably and becomes statistically insignificant, which suggests PSM may absorb much of the predictive power of altruism when considering volunteering. Holding altruism and all else constant, an

**Table 3.** LPM estimates of relationship between PSM, altruism, and volunteering, two-factor model

	(1)	(2)	(3)	(4)
Panel A. Formal volunteering				
Altruism	—	0.14*** (0.04)	[0.001]	—
PSM	—	—	0.17*** (0.03)	[0.000]
All controls and state FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.12	0.14	0.15	0.15
Observations	807	807	807	807
Panel B. Informal volunteering				
Altruism	—	0.14*** (0.04)	[0.000]	—
PSM	—	—	0.12*** (0.03)	[0.000]
All controls and state FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.05	0.07	0.07	0.07
Observations	807	807	807	807
Panel C. Donate blood				
Altruism	—	0.08*** (0.02)	[0.004]	—
PSM	—	—	0.07*** (0.02)	[0.002]
All controls and state FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.00	0.01	0.02	0.01
Observations	807	807	807	807

Standard errors (in parentheses) are clustered at the state level;  $p$ -values [in brackets] appear to the right of coefficients. PSM, public service motivation; FE, fixed effects; LPM, linear probability models.

\* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$  (next to coefficients); \*\* $p < .05$ , \* $p < .10$  for joint  $F$ -test that PSM not equal to altruism (next to standard errors).

increase of one standard deviation in PSM corresponds with a statistically significant 20 percentage point increase in the likelihood someone volunteers in a formal capacity and a significant 9 percentage point increase in the likelihood of informal volunteering. Conversely, holding PSM and all else constant, an increase of 1 SD in altruism corresponds with a statistically insignificant decrease in the likelihood of formal volunteering and an insignificant increase in the likelihood of informal volunteering and donating blood. With the addition of PSM, altruism fails to be a significant predictor of prosocial behavior.

It is also worth noting that even a rich set of controls on a variety of observable dimensions, state fixed effects, and controls for motivating traits (altruism and PSM) only explains about 15% of the variation in formal volunteering, 7% of the variation in informal volunteering, and about 1% of the variation in blood donating patterns. While this does not indicate our estimates are biased, it does serve to highlight that many of the factors that explain prosocial behaviors remain unknown and warrant continued research and theory development.

## Discussion

Using measures of PSM and altruism, taken from a national sample, we examine the independent and joint influence of these motivations on prosocial behaviors. We demonstrate that although altruism is strongly correlated with PSM, a modest proportion of the variance in PSM is not explained by altruism alone. However, both measures are intended to explain the underlying motivation for participating in prosocial, other-oriented behaviors. We compare their effects on three common measures of prosocial behavior, formal and informal volunteering and donating blood, measured with the same panel of respondents months after measures of PSM and altruism were collected. We find that PSM has a significant influence on volunteering behaviors while controlling for altruism, which has no effect on any of the prosocial behaviors considered here once PSM is added to the models. Our results demonstrate that PSM is more likely to drive these volunteering behaviors—both formal and informal volunteering—compared with altruism. However, PSM has a more consistent and stronger correlation with formal volunteering, while the effect size is much smaller for informal volunteering and equivalently small and null for donating blood.

PSM consistently explains participation in a range of prosocial behaviors, more so than altruism. Using a nationally representative sample, we find PSM consistently predicts both formal and informal volunteering. This is not only consistent with studies of student

samples (Christensen et al. 2015; Clerkin et al. 2009; Piatak 2016a), but also validates the five-item global measure of PSM (Perry 1996; Vandenabeele, Ritz, and Neumann 2018; Wright, Christensen, and Pandey 2013) for examinations of volunteering. Our results suggest PSM is a broader and more complete measure of an individual's predisposition toward prosocial behaviors than altruism. Altruism focuses solely on helping others, while PSM captures both altruistic and egotistic motivations. In this sense, PSM more closely aligns with conceptions of voluntary behavior. Our findings suggest PSM would be a valuable concept and measure in research on volunteering and more broadly to nonprofits. Because employees with high levels of PSM are more satisfied and less likely to leave (e.g., Naff and Crum 1999), perhaps volunteers with higher levels of PSM devote more time and/or are more likely to stay. Research and interventions aimed at cultivating the values underlying prosocial behaviors, such as volunteering, should examine PSM as the desired outcome because PSM captures a fuller picture of the motives for prosocial behavior.

In addition to validating PSM to measure the motivation to volunteer, our findings contribute to understanding the inconsistent findings on job sector, PSM, and volunteering. In using job sector as a proxy for PSM, scholars have found both government and nonprofit employees (Houston 2006; Rotolo and Wilson 2006), only government employees (Ertas 2014; Houston 2008), and only local government and nonprofit employees (Piatak 2015) to be more likely to volunteer than those in the for-profit sector. Meanwhile, the global measure of PSM consistently predicts volunteering in both our results and prior work (Christensen et al. 2015; Piatak 2016a; Walton et al. 2017). Because PSM-driven individuals may select into a different job sector than government employment (e.g., Christensen and Wright 2011; Holt 2018; Kjeldsen and Jabsobsen 2012), PSM and job sector should not be equated, particularly in relation to predicting prosocial behaviors. As others have emphasized (e.g., Brewer and Selden 1998), PSM is public *service* motivation, which should not be conflated with public sector motivation nor socialization, to advance PSM as a theory of motivation.

However, our study comes with some limitations. First, we only observe respondents in two waves and the respondents are a nationally representative sample of registered voters. Future research should examine altruism and PSM in a broader sample with more waves of data to allow researchers to control for early volunteering experiences and disentangle the development of these two concepts. This would allow scholars to examine changes in volunteering behavior, which would be helpful as would studying the influence

of these prosocial motivations on the frequency of volunteering.

Second, in addition to limited waves, our binary measures of volunteering, which asks about any volunteering in the previous year, provide only a partial view of volunteering behavior. Future work should collect more detailed information about the frequency and intensity of volunteering throughout the year, preferably with more granular information about the nature of the volunteering activities undertaken. Such detailed information about volunteering would researchers to examine whether PSM or altruism influences how often an individual volunteers, the level of effort they give to volunteering, and whether the variation in both frequency and intensity explained by PSM or altruism shifts conditional on the context of volunteering activities. Indeed, the relative lack of participation in informal volunteering (25% of respondents) and blood donation (13% of respondents) in our sample leaves the links between PSM, altruism, and behavioral context open for further examination. Further, we are unable to determine whether some informal volunteering in our sample was related to community-focused initiatives organized by a formal organization. Future research should look to overcome this with more detailed information about both the volunteering efforts undertaken by individuals and the specific volunteer activities they put those efforts toward to better investigate the theoretical propositions we have raised.

Third, we use established, abbreviated survey instruments to measure altruism and PSM. Future research should implement longer form measures of the two concepts to further investigate the measurement boundaries between the two concepts. Research has found inconsistent results when examining the dimensions of PSM in relation to volunteering, some highlighting civic duty (Clerkin et al. 2009), some finding no influence (Piatak 2016a), and some highlighting attraction to policymaking (Christensen et al. 2015). Because the dimensions may have different and even conflicting influences (e.g., Jensen and Andersen 2015), a dimensional approach may shed more light on where altruism and PSM differ and converge. We examine the relative predictive strength of PSM compared with one other-oriented concept, altruism, due to the intermingling of the concepts in definitions and discussion of PSM. However, future research should examine how PSM relates to other concepts, such as Grant's (2008) prosocial motivation and or all the dimensions of Batson's (1994) prosocial motives, of which altruism is one, but also includes collectivism, egoism, and principalism, and the role of prosocial messaging for public service jobs (Asseburg et al. 2019). PSM picks up more than altruism, but how PSM fits in the context of concepts from other fields and disciplines is an area for future

research. Our work found that the effect of the motivational constructs was most influenced by the addition of political ideology and religiosity, indicating these are important controls for future work.

Relatedly, we examine a limited number of prosocial behaviors. Our results suggest that PSM may be most relevant within or contributing to an organizational or institutional context. By analyzing both PSM and altruism in relation to formal and informal volunteering and donating blood, we demonstrate that PSM provides stronger insights into prosocial behaviors than altruism that has no effect with the inclusion of PSM. Moreover, in contexts with fewer direct institutional or organizational ties, such as donating blood or informal volunteering, we observe a correlation with a smaller magnitude. Our findings suggest that PSM provides stronger insights into prosocial behaviors *within formal institutions* than altruism. Future research should further test this potential conceptual bound. Future researchers should build on these results to further investigate institutional commitment as a potential theoretical boundary differentiating and defining these two concepts. Examining the relationship between these two concepts and behaviors particular to public or nonprofit organizations would be a fruitful area of continued empirical investigation.

## Conclusion

PSM has broad implications beyond the field of public management. Although PSM has begun to gain attention in some disciplines (Perry and Vandenberg 2015), scholars have raised the need to address issues of causality and to establish the boundaries of PSM (e.g., Perry and Vandenberg 2015; Ritz, Brewer, and Neumann 2016; Vandenberg, Brewer, and Ritz 2014). We find PSM is a more holistic measure of motivation for prosocial behaviors than altruism and offer formalized organizations or institutions as a potential contextual boundary for PSM.

We address Bozeman and Su's (2015) critique of PSM and call to disentangle the concept from similar constructs such as altruism because some define PSM in terms of altruism (Rainey and Steinbauer 1999) and others suggest there are altruistic components (e.g., Pandey, Wright, and Moynihan 2008; Perry 1996; Perry and Hondeghem 2008; Perry and Wise 1990). In search of conceptual clarity (Gerring 1999), we agree with the caution not to equate the two (Perry and Vandenberg 2015) and that PSM should be clearly distinguished from altruism (Vandenberg, Ritz, and Neumann 2018). We disentangle the two motivational constructions by examining their separate and joint effects. The results suggest that although altruism and PSM measure some overlapping parts of prosocial

motives for behavior, they are distinct concepts and PSM is a more significant predictor of volunteering behaviors than altruism.

To export theories to other disciplines, we need conceptual clarity. Part of establishing clarity surrounding PSM is understanding the boundaries of the concept. Although the constructs of PSM and altruism overlap as normative motives, PSM is distinct as it also captures rational and affective motives. As such, PSM is a more holistic predictor of prosocial behaviors than altruism. PSM has a great deal to offer, such as measuring motivations to volunteer. We, as scholars, should work to provide conceptual clarity to be able to export our theories as much as we import them from other disciplines.

### Supplementary material

Supplementary data are available at *Journal of Public Administration Research and Theory* online.

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